

4. Descriptions of some new or rare Species of Plexaurids.

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(Plate III.)

Among the Gorgonids in the British Museum there are examples of some species of the genera *Plexaura* and *Plexaurella* which appear to be still undescribed. As to a number of the described species, it is often impossible to say with certainty whether or no one has them before the eyes; Milne-Edwards and Haime, like Duchassaing and Michelotti, make no use of the characters of the spicules, though the works of both were published after the appearance of Valenciennes's suggestive essay¹. Fortunately the British Museum is in possession of a series of preparations by M. Potteau which may be regarded as illustrative of Valenciennes's memoir, and by the aid of these it is often possible to add enough to the otherwise imperfect diagnoses of the earlier describers of these forms.

Of the species now to be described it may be said that they have all such well-marked characters that it is unlikely that any previous description of them can have been overlooked. One of them will always rank with the most splendid members of a group which, as all know, contains so many remarkable and beautiful forms; another was long since recognized to be a distinct species by the late Dr. Gray.

1. PLEXAURA PRINCIPALIS. (Plate III. fig. 1.)

An exceedingly fine form; the whole colony a large bushy mass of a uniformly light-brownish colour. Allied to *P. suffruticosa*, but rather less ramose, the terminal branches longer, the branches not so flexuous and very rarely nodose; calyces not so closely packed.

The specimen under description is 86 cm. high, 1.38 m. in spread; the base is flattened from side to side, and its long axis is at right angles to the chief plane of spreading; the greatest length of the axis is about 90 cm. The primary trunks are flattened, vary in size and are only seldom swollen; the terminal branches are rounded, and are often, though not always, about 10 cm. long. The orifices of the calices are rather small; they are generally about 1 mm. apart, but sometimes they are separated by 2 mm., and occasionally they are a little more distant from one another. Cortex smooth, moderately thick; axis black, not very flexible.

The characters of the cortical spicules may be best made out from the accompanying figures²; for the purpose of comparison the spicules of *P. suffruticosa* are, now for the first time, figured; the chief points to be noted are that *P. imperialis* appears to have no spicules of the so-called "Blattkeule" form; the four-rayed spicule is rare, and is either vestigial or rudimentary in character. The elongate spicules are longer and more delicate than in *P. suffruticosa*;

¹ Comptes Rendus, xli. p. 7 *et seq.*

² All the spicules figured in the accompanying drawings (Plate III.) are magnified about 180 times.

in the latter the "Blattkeule" is of a simple character, and the four-rayed spicule is more ornate and more abundant than in the new species.

Hab. Ebon (or Baring) Island, North Pacific; in Coll. B. M.

This magnificent Plexaurid was presented by Captain Lewis J. Moore; it was "given," he says, "by a head chief to Mr. Capella, and he gave it to me."

2. PLEXAURA SUFFRUTICOSA. (Plate III. fig. 2.)

Plexaura suffruticosa, Dana, Milne-Edwards & Haime, Corall. i. p. 154.

The British Museum possesses a good example of this species, which was obtained at Billiton. It is very bushy, 80 cm. high, with a greatest spread of 33 cm. The cortex, the spicules of which are now figured, is pretty thick; the axis is black. The distribution of the calyces is somewhat irregular. The nodosities are numerous and prominent.

The description of Milne-Edwards and Haime is an excellent example of a brief diagnosis which renders the determination of a species very much easier than the long descriptions with which it is often one's misfortune to meet.

3. PLEXAURELLA AFFINIS, sp. nov. (Plate III. fig. 3.)

A large species of tall habit, allied to *P. dichotoma* and *P. vermiculata*, but with about twice as many branches, which are more slender, and with more delicate spicules.

The specimen under description is about 76 cm. high, the main trunk is 15 cm. long, and about 1 cm. in diameter; it is flattened at the point of origin of the branches; of these one which does not again divide is about 42 cm. long; the next branch divides at some little distance from its point of origin, and one of the resulting branches again divides twice. The remaining branch, which divides much nearer its point of origin gives rise to two branches, each of which divides three times. The cortex is rather thick, and there are a few nodosities on it; it is of a whitey-brown colour. The calices are scattered, not closely packed, and often of an elongate oval form, and they may be more than 2 mm. long. The axis is of a brownish colour. The spicules are very fine and large; their characteristic forms are shown in Plate III. fig. 3.

Hab. West Indies.

The specimen has been for a long time in the British Museum, and bears, in Dr. Gray's handwriting, the label "*Plexaurella*, n. s."

4. PLEXAURELLA ANGUICULOIDES. (Plate III. fig. 4.)

Plexaura anguiculoides, Gray, MSS.

This species is, no doubt, closely allied to *P. anguiculus* (Dana), but I think Dr. Gray was quite justified in regarding it as distinct; the grounds of separation I take to be the much greater stoutness of the branches, for Dana especially notes that his species is distinguished by the delicacy of its branches.

The present species is erect, branching, elegant, not at all closely bushy; there is no spreading base, but the trunk is rather wide, being about 3 cm. in diameter; the branches are flattened at the points of bifurcation; the secondary trunks give rise to branches, which do not ordinarily branch more than five times, so that many of the terminal twigs are as much as 35 cm. long; these terminal twigs are about 5 mm. in diameter. There are a few nodosities. The cortex is fairly thick, the calyces numerous, irregularly scattered, rather large pits, so that the general appearance is not unlike that of *P. porosa*. Axis brownish, impregnated with calcareous salts, and the species belongs, therefore, to the genus *Plexaurella* and not to *Plexaura*. The characteristic spiculation is shown in the accompanying figure.

Hab. West Indies.

5. PLEXAURELLA VERMICULATA. (Plate III. fig. 5.)

Gorgonia vermiculata, Lamk.

Plexaura vermiculata, Val.; see Milne-Edwards & Haime, Corall. i. p. 156.

Plexaurella vermiculata, Kölliker, Icon. Histiol. p. 138.

There is not, I think, sufficient reason for distinguishing as the type of a distinct species a specimen labelled by Dr. Gray as *Plexaura porosa*, but which is certainly a *Plexaurella*, inasmuch as it has deposit of calcic carbonate in its axis. It presents some slight points of difference from *P. vermiculata*, as described by Milne-Edwards and Haime, and there is not an absolute identity of spiculation. There cannot, I think, be any doubt that there has been a tendency to neglect the variations possible in these forms, and it is better to refrain from "splitting" species.

In the specimen under consideration the calices are nearly as closely packed as in *P. porosa*; the terminal branches are often rather less than 8 mm. in diameter, and the main trunks are from 12 to 16 mm. across, whereas Milne-Edwards gives 8 mm. for the former and 9 to 10 mm. for the latter; no statement, however, is made as to the height of the whole mass; in the case of the British Museum specimen it is rather more than 60 cm. and all the tops are a little broken off.

The cortex, which is thick, is of a lightish brown colour; the axis is of a light brown colour. The axis is flattened at the angles of division, and there appears to be no tendency to the formation of nodes; some of the terminal branches are more than 15 cm. long.

The spicules are, as the figures show, short, but somewhat irregular in form.

EXPLANATION OF PLATE III.

Spicules of *Plexaura* and *Plexaurella*, $\times 180$.

- Fig. 1. *Plexaura principalis*, p. 47.
 2. *Plexaura suffruticosa*, p. 48.
 3. *Plexaurella affinis*, p. 48.
 4. *Plexaurella anguiculoides*, p. 48.
 5. *Plexaurella vermiculata*, p. 49.